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First record of *Pimelodella mucosa* Eigenmann & Ward, 1907 (Siluriformes: Heptapteridae) in Formosa, Argentina and comments on the geographical distribution of *P. howesi* Fowler, 1940

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Abstract: The examination of the specimens recorded as *Pimelodella howesi* in Argentina reveals a misidentification that allow us to confirm the presence of *Pimelodella mucosa* for first time in the country.

Key words: laterosensory canal pores, *Pimelodella*, distribution, Argentina.

The Neotropical region comprises almost 6,000 species from the 13,000 freshwater fish species currently known (Reis et al. 2003). Despite of the constantly increasing number of described species in this region in the last years, many groups remain unsatisfactorily diagnosed. Among these groups, the family Heptapteridae is currently undiagnosed and some genera belonging to this family are still defined by a combination of several characters rather than uniquely derived features (Bockmann and Guazzelli 2003). The genus *Pimelodella* Eigenmann and Eigenmann is the most species-rich genus within Heptapteridae, with 77 species and one *species inquirenda* (Eschmeyer 2015). It is distributed in Central and South America, from the Chagres River in Panamá to la Plata System in Argentina, and with representatives in both sides of the Andes. The genus is currently diagnosed by a combination of characters proposed by Eigenmann (1917) and Bockmann (1998), but the monophyly of *Pimelodella* remains unsupported.

In Argentina, the genus is represented by five species (Mirande and Koerber 2015). *Pimelodella gracilis* (Valenciennes, 1836) has its type locality in the Paraná River Basin in Argentina, *P. griffini* Eigenmann, 1917, *P. laticeps* Eigenmann, 1917 and *P. taenioptera* Miranda Ribeiro, 1914 in the Paraguay River basin in Paraguay, and *P. howesi* Fowler, 1940 in the Mamoré River, Amazon basin, Bolivia. Because the Paraguay River basin is a tributary to the Paraná River basin it is likely that several species live in both basins. However, the presence of *P. howesi* in Laguna Oca, Paraná River basin, Formosa, Argentina (Figure 1) is a doubtful fact that led us to revise the material recorded as *P. howesi*, housed at the ichthyological collection of Fundación Miguel Lillo (CI-FML 2023, former number 463). The aim of this contribution is the identification of these specimens cited by Ringuelet et al. (1967), a record followed by several authors in the subsequent years.

Morphometric measurements represent straight lines between two points, taken with caliper to nearest 0.01 mm, expressed as percentages of standard length (SL) and head length (HL).

Material examined: *Pimelodella gracilis*, CI-FML 2175, 1 specimen, 134.1mm SL, Paraná River, Ituzaingó, Corrientes, Argentina. *Pimelodella griffini*, CI-FML 6192, 1 spec., 85.1 mm SL, Bahía Negra, Paraguay River, Paraguay. Coll. Aguilera and Mirande, 2002. *Pimelodella*

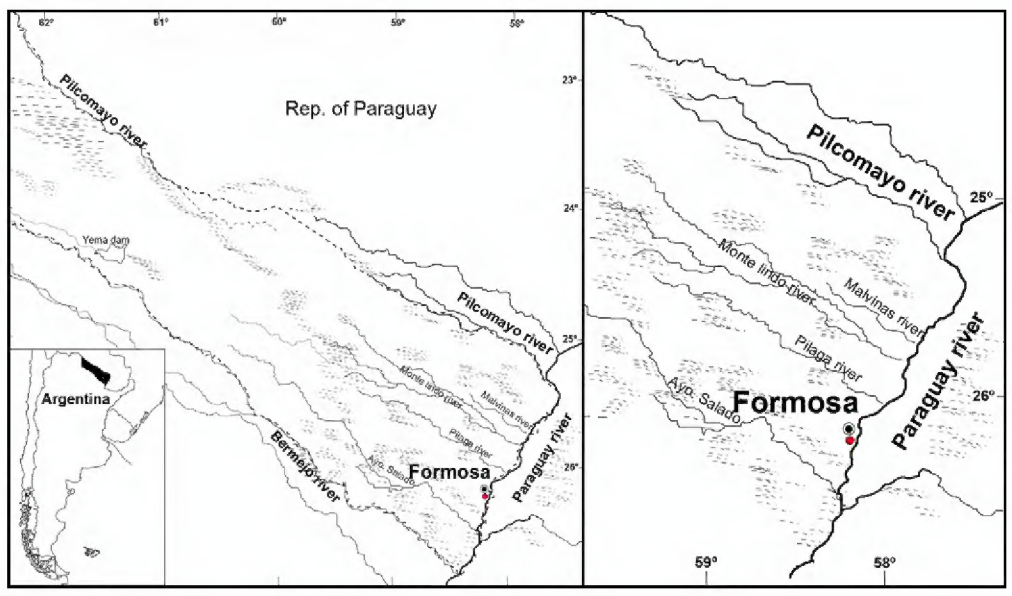

Figure 1. Map of Argentina in which the province of Formosa is highlighted in black. A red dot indicates the locality in which *P. mucosa* was recorded (26°14′07.06″ S, 058°11′38.54″ W).

Figure 2. Enlarged mucous pores in the lower cheek and mandible of *Pimelodella mucosa*, CI-FML 2023, 68.2 mm SL.

Figure 3. Left pectoral spine of *Pimelodella mucosa*, CI-FML 2023, 94.7 mm SL.

laticeps, CI-FML 6193, 5 specimens, 65.2–68.9 mm SL, Laguna de Chascomús, Río de la Plata basin, Argentina. Coll. M. Azpelicueta. *Pimelodella mucosa*, CI-FML 2023 (former collection number FML 463), 15 specimens, 56.9–94.7 mm SL, Esteros Laguna Oca, Paraguay River basin, Formosa, Argentina. CI-FML 6194, 2 spec. (1 C&S), 77.9–89.9 mm SL, Bahía Negra, Paraguay River, Paraguay. Coll. Aguilera and Mirande, 2002.

The analysis of specimens shows the presence of very conspicuous pits in the lower cheeks and mandible (Figure 2), which are the extremely enlarged pores of the laterosensory system of the head, as those structures distinguishing *Pimelodella mucosa* (e.g., Eigenmann and Ward 1907 *in* Eigenmann et al. 1907). Additional characters such as length of maxillary barbels reaching up to near the origin or middle of caudal-fin rays (103.4–119.5% SL), the pectoral spine with straight, feeble dentation on its posterior surface (Figure 3), eye 3.5 to 4.5 in HL, and the adipose fin short (3.2 to 3.6 in SL) indicate that the specimens belong to *P. mucosa* (Figure 4).

Table 1. Morphometric measurements of *Pimelodella mucosa* from Esteros Laguna Oca, Formosa, Argentina. N=10.

	Range	Mean	SD
Standard length	59.6 – 94.7	73.8	11.1
Percent of standard length			
Pre-dorsal length	36.7 – 40.0	38.9	0.9
Pre-adipose length	63.3 – 65.9	64.2	0.9
Pre-ventral length	48.4 – 51.3	50.0	1.0
Pre-anal length	69.7 – 72.6	71.0	1.1
Caudal peduncle length	15.0 – 17.8	16.6	0.9
Anal-fin base	11.9 – 15.2	13.6	1.0
Dorsal-fin base	16.3 – 18.4	17.4	0.8
Dorsal-fin spine length	15.3 – 20.0	17.7	1.5
Dorsal fin to adipose fin	9.2 – 11.9	10.2	0.8
Adipose-fin base length	27.5 – 30.1	28.6	0.8
Pectoral-fin spine length	20.5 – 22.3	21.3	0.6
Pelvic-fin length	15.7 – 19.3	18.0	1.0
Distance pectoral to pelvic-fin origin	23.2 – 30.1	25.8	2.0
Distance pelvic to anal-fin origin	15.2 – 23.7	21.9	2.5
Body depth	20.0 – 24.3	22.1	1.2
Head depth	14.1 – 16.1	15.0	0.7
Head length	27.8 – 29.4	28.6	0.5
Maxillary-barbel length	103.4 – 119.5	111.9	5.5
External Mentonian-barbel length	28.9 – 37.4	32.8	3.0
Internal Mentonian-barbel length	13.4 – 16.0	15.0	0.8
Percents of head length			
Interorbital distance	24.9 – 28.7	26.6	1.2
Orbital length	24.3 – 28.8	26.4	1.3
Snout length	39.8 – 45.6	42.2	1.8
Mouth width	34.0 – 39.7	36.8	2.0

Figure 4. *Pimelodella mucosa*, CI-FML 2023, 66.3 mm SL, Esteros Laguna Oca, Paraguay River basin, Argentina.

Morphometric measurements of *P. mucosa* from Esteros Laguna Oca, (Table 1). Dorsal-fin rays I–6 (10 specimens); anal-fin rays 11 (1 specimen), 12 (7 specimens) and 13 (2 specimens); pectoral-rays I-9 (10 spec.), and pelvic-fin rays 6 (10 specimens). Pectoral-spine serrae 13 (3 specimens), 14 (3 specimens), 16 (1 specimen), and 18 (1 specimen).

The presence of hypertrophied pores of the laterosensory system in lower cheek and mandible is the main diagnostic character of *P. mucosa*, up to the moment, the only known species of *Pimelodella* with these pores.

This contribution represents the first record of *Pimelodella mucosa* in Argentina, with material collected almost 60 years ago, and reveals that *Pimelodella howesi* is not present in Argentina. This new information highlights the necessity of detailed analysis of *Pimelodella* species with a disjunct distribution pattern.

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